

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of:  
Haruo Koharagi, et al.

Application No.: Not Yet Assigned

Group Art Unit: N/A

Filed: Herewith

Examiner: Not Yet Assigned

For: PERMANENT MAGNET TYPE  
ROTATING ELECTRICAL MACHINE

PRELIMINARY AMENDMENT

Commissioner for Patents  
Washington, DC 20231

Dear Sir:

Preliminary to examination, please amend the above-referenced application as follows:

IN THE SPECIFICATION:

Rewrite the paragraph on page 7, line 11, as follows:

Figs. 2(A) and 2(B) are cross sectional views in the radial direction representing the rotor core configuration given in Fig. 1;

Rewrite the paragraphs on page 7, line 22, through page 8, line 21, as follows:

Figs. 5(A) and 5(B) are cross sectional views in the radial direction representing the rotor core configuration as the second embodiment of the permanent magnet type rotating electrical machine according to the present invention;

Figs. 6(A) and 6(B) are cross sectional views in the radial direction representing the rotor core configuration as the third embodiment of the permanent magnet type rotating electrical machine according to the present invention;

Figs. 7(A) and 7(B) are cross sectional views in the radial direction representing the rotor core configuration as the fourth embodiment of the permanent magnet type rotating electrical machine according to the present invention;

Figs. 8(A) and 8(B) are cross sectional views in the radial direction representing the rotor core configuration as the fifth embodiment of the permanent magnet type rotating electrical machine according to the present invention;

Figs. 9(A) and 9(B) are cross sectional views in the radial direction representing the rotor core configuration as the sixth embodiment of the permanent magnet type rotating electrical machine according to the present invention;

Rewrite the paragraphs on page 9, lines 2 through 16, as follows:

Figs. 11(A) and 11(B) are cross sectional views in the radial direction representing the rotor core configuration as the eighth embodiment of the permanent magnet type rotating electrical machine according to the present invention;

Figs. 12(A) and 12(B) are cross sectional views in the radial direction representing the rotor core configuration as the ninth embodiment of the permanent magnet type rotating electrical machine according to the present invention;

Figs. 13(A) and 13(B) are cross sectional views in the radial direction representing the rotor core configuration as the tenth embodiment of the permanent magnet type rotating electrical machine according to the present invention;

IN THE CLAIMS:

Rewrite claims 8-15 as follows:

8. (Amended) A permanent magnet type rotating electrical machine according to any one of Claims 1 to 4, 6 and 7 characterized in that arrangement of said permanent magnet insertion hole provided on said first rotor core is different from that of said flux barrier or said hole provided on said second rotor core.

9. (Amended) A permanent magnet type rotating electrical machine according to Claim 8 characterized in that the number of flux barriers or holes provided on said second rotor core is greater than that of said permanent magnet insertion holes provided on said first rotor core.

10. (Amended) A permanent magnet type rotating electrical machine according to Claim 8 characterized in that said permanent magnet insertion holes provided on said first rotor core and the flux barriers or holes provided on said second rotor core are formed in a straight line or shaped like a letter U or V.

11. (Amended) A permanent magnet type rotating electrical machine according to Claim 10 characterized in that said permanent magnet insertion holes provided on said first rotor core and the flux barriers or holes provided on said second rotor core are formed like a letter duplicate U or V.

12. (Amended) A permanent magnet type rotating electrical machine according to Claim 11 characterized in that non-magnetic substances are inserted in the flux barriers or holes provided on said second rotor core.

13. (Amended) A permanent magnet type rotating electrical machine according to Claim 12 characterized in that said permanent magnet rotating electrical machine is

driven by a 180-degree current-applied sinusoidal wave inverter without magnetic pole position sensor.

14. (Amended) A compressor arranged to be driven by a permanent magnet type rotating electrical machine according to Claim 13.

15. (Amended) An air conditioner comprising a compressor according to Claim 14.

REMARKS

This Preliminary Amendment is being filed in order to place the application in better form for examination. Favorable action on the application is solicited.

Dated: October 4, 2001

Respectfully submitted,

By 

Mark J. Thronson

Registration No. 33,082

DICKSTEIN SHAPIRO MORIN &  
OSHINSKY LLP

2101 L Street NW

Washington, DC 20037-1526

(202) 785-9700

Attorneys for Applicants

**MARKED-UP VERSION SHOWING CHANGES MADE**

[Fig. 2 is a] Figs. 2(A) and 2(B) are cross sectional [view] views in the radial direction representing the rotor core configuration given in Fig. 1;

[Fig. 5 is a] Figs. 5(A) and 5(B) are cross sectional [view] views in the radial direction representing the rotor core configuration as the second embodiment of the permanent magnet type rotating electrical machine according to the present invention;

[Fig. 6 is a] Figs. 6(A) and 6(B) are cross sectional [view] views in the radial direction representing the rotor core configuration as the third embodiment of the permanent magnet type rotating electrical machine according to the present invention;

[Fig. 7 is a] Figs. 7(A) and 7(B) are cross sectional [view] views in the radial direction representing the rotor core configuration as the fourth embodiment of the permanent magnet type rotating electrical machine according to the present invention;

[Fig. 8 is a] Figs. 8(A) and 8(B) are cross sectional [view] views in the radial direction representing the rotor core configuration as the fifth embodiment of the permanent magnet type rotating electrical machine according to the present invention;

[Fig. 9 is a] Figs. 9(A) and 9(B) are cross sectional [view] views in the radial direction representing the rotor core configuration as the sixth embodiment of the permanent magnet type rotating electrical machine according to the present invention;

[Fig. 11 is a] Figs. 11(A) and 11(B) are cross sectional [view] views in the radial direction representing the rotor core configuration as the eighth embodiment of the permanent magnet type rotating electrical machine according to the present invention;

[Fig. 12 is a] Figs. 12(A) and 12(B) are cross sectional [view] views in the radial direction representing the rotor core configuration as the ninth embodiment of the permanent magnet type rotating electrical machine according to the present invention;

[Fig. 13 is a] Figs. 13(A) and 13(B) are cross sectional [view] views in the radial direction representing the rotor core configuration as the tenth embodiment of the permanent magnet type rotating electrical machine according to the present invention;

8. (Amended) A permanent magnet type rotating electrical machine according to any one of Claims 1 to 4, 6 and 7 characterized in that

arrangement of said permanent magnet insertion hole provided on said first rotor core is different from that of said flux barrier or said hole provided on said second rotor core.

9. (Amended) A permanent magnet type rotating electrical machine according to [any one of Claims 1 to] Claim 8 characterized in that

the number of flux barriers or holes provided on said second rotor core is greater than that of said permanent magnet insertion holes provided on said first rotor core.

10. (Amended) A permanent magnet type rotating electrical machine according to [any one of Claims 1 to] Claim 8 characterized in that

said permanent magnet insertion holes provided on said first rotor core and the flux barriers or holes provided on said second rotor core are formed in a straight line or shaped like a letter U or V.

11. (Amended) A permanent magnet type rotating electrical machine according to [any one of Claims 1 to] Claim 10 characterized in that

said permanent magnet insertion holes provided on said first rotor core and the flux barriers or holes provided on said second rotor core are formed like a letter duplicate U or V.

12. (Amended) A permanent magnet type rotating electrical machine according to [any one of Claims 1 to] Claim 11 characterized in that

non-magnetic substances are inserted in the flux barriers or holes provided on said second rotor core.

13. (Amended) A permanent magnet type rotating electrical machine according to [any one of Claims 1 to] Claim 12 characterized in that

said permanent magnet rotating electrical machine is driven by a 180-degree current-applied sinusoidal wave inverter without magnetic pole position sensor.

14. (Amended) A compressor arranged to be driven by a permanent magnet type rotating electrical machine according to [any one of Claims 1 to] Claim 13.

15. (Amended) An air conditioner comprising a compressor according to [any one of Claims 1 to] Claim 14.